Infrastructure Working Group

Texas AAM Committee

Meeting #1, February 8, 2024

Agenda

- Opening remarks (Lead)
- Housekeeping (Lead)
  - File sharing
  - Working group operations
  - Committee overarching goal
- Review relevant research (TXST)
- Brainstorm recommendations for Texas Legislature
  - Working group
  - Public
- Closing remarks (Lead)

File Sharing

- 6 Texas AAM Committee SharePoint folders
  - General (additions reserved for Chair, Vice Chair, and TXST team)
  - Community Integration
  - Economic Impact
  - Funding
  - Infrastructure
  - Public Good and Safety Use-Cases
- Announcement email with a SharePoint link sent for any addition
- Email us at innovate@txstate.edu for questions about file access

Working Group Operations

- You can vote on final recommendations if
  - You are a full committee member AND
  - You attend 3 out of 5 working group meetings

- Email group lead Cade Clark (cade.clark@rotor.com) or vice lead Mark Ozenick (mozenick@aol.com) with research requests and they will forward requests to TxDOT and TXST

Texas AAM Committee Overarching Goal

Enhance Texas' leadership in AAM by developing recommendations for the Texas Legislature to accelerate and support the community integration and use of AAM (i.e., both crewed and uncrewed aircraft) in the State of Texas.

Review Relevant Research

Global AAM Market Study

Country	News
China	EHang has announced that three **certified EH216-S pilotless eVTOL units** have been delivered to a customer in Wuhan for aerial sightseeing at Donghu Ecological Tourism and Scenic Area. EHang announces retail price of USD340,000 for its EH216-S, effective from April 1, 2024.
France	An **electric air taxi service** could be launched during the 2024 Olympic Games. While the chosen aircraft and the first vertiport are ready, the project promoters still have to convince the authorities and regulators.
South Korea	Investing USD22.4 million to build a future aviation center in Wonju for the development, demonstration, and technology evaluation of future aviation technologies. In October 2020, Hyundai introduced a roadmap for an **autonomous air cargo system** that would be commercialized in 2026.
UK	UK Civil Aviation Authority (CAA) has started consultations on developing **vertiport operations at existing airports**.

Document Review

Document	Infrastructure (pgs.)
NREL Vertiport Electrical Infrastructure Study	47-51, 82-91
NASA Intermediate State UAM Vision Concept of Operations Overview	7-11, 20-22, 27-29, 33-34
NASA AAM Community Integration Considerations Playbook	22
NIA-NASA UAM Electric Infrastructure Study	17-18, 22-23
FAA Concept of Operations	10-11, 13-22,
FAA AAM Implementation Plan	8-12, 22-25, 20
AAM Prepared State Reports	3-4

Document Review Themes

- **Upgrade electrical infrastructure**
  - Site vertiports close to existing transformers, use three phase power
- Develop **AAM sandboxes/testing facilities**
- Develop **AAM Corridors**
  - Use established Visual Flight Rules (VFR) corridors/flyways
  - Consider design standards based on 14 CFR parts 135 and 91
  - In accordance with Air Traffic Control (ATC) operational design
- Integrate with current airspace and infrastructure
  - Comply with existing Communication, Navigation, Surveillance and Information (CNSI) requirements for airspace
  - Consider use of existing airports, heliports, and helipads for eVTOL sites
  - Expand EV charging infrastructure to include excess gas stations for vertistops

Brainstorm Recommendations

Topics

Overarching goal: Enhance Texas' leadership in AAM by **developing recommendations for the Texas Legislature** to accelerate and support the community integration and use of AAM (i.e., both crewed and uncrewed aircraft) in the State of Texas.

- Physical (e.g., airports, vertiports, electricity)
- Digital (e.g., UTM/PSU)
- Airspace (i.e., integration)

Recommendations in blue acted on by the Legislature

Previous Airspace and Infrastructure

Recommendations

1. Provide consistency across Texas law by creating statutory uniformity and standard definitions pertaining to unmanned aircraft operations and UAM/AAM.
2. Develop an UAM/AAM–centric research facility to test and evaluate technology, provide data collection opportunities, and coordinate with federal entities to share information and help guide data-driven public policy. The Texas Legislature is encouraged to consider the benefits of state funding for the successful development and operation of this facility.
3. Develop a statewide plan, or integration within the Texas Airport System Plan, that addresses the potential locations for and classifications of vertiports and other associated infrastructure to help define the future operational environment of UAM/AAM.
4. Direct the state to work with municipalities to provide technical assistance to local governments in adapting and integrating UAM/AAM in their communities.

Recommendations to Texas Legislature

General brainstorm

- Look at what existing infrastructure is working now and how it is functioning (municipalities with existing permitting processes, ensure that the process is correct and consistent). This includes the location, what cities, requirements from the ground up (power, transportation, security, environment, etc.)
- Texas Economic Development Board does a user study because in the long term we need to know who will use it and for what purpose
- Define the common specification
- Encourage development of AAM corridors in Texas

Airspace Requirements

- Federal airspace requirements interplay with local and state zoning
- Technology use to ensure safety and efficiency

Real Estate Requirements

- Understand who is using it and for what purpose, maybe have Texas Economic Development Board do a user study
- Have common municipality permitting processes and design requirements/regulations to ensure that regulations are aligned across the State
    - Are there processes we would recommend in the short term
- Do we need to beta test it, do we need a sandbox or a simulator?

Next Meeting Dates

Infrastructure Meeting 2: March 7, 1:30-3:30

Full Committee Meeting: March 27, 9:00-12:00